

## Red Willow Dam, Nebraska

### Frenchman-Cambridge Division, Pick-Sloan Missouri Basin Program

#### Overview of the dam:

Red Willow Dam, located on Red Willow Creek about 10 miles northwest of McCook, is one feature of the Frenchman-Cambridge Division of the Pick-Sloan Missouri Basin Program. It is an earthfill embankment with a structural height of 126 feet that forms a reservoir of 86,630 acre-feet. An ungated concrete spillway is located in the right abutment. An outlet works through the base of the dam provides for river and irrigation releases for downstream diversions. The reservoir behind this dam is Hugh Butler Lake.

#### Benefits of the dam and reservoir:

##### Irrigation:

Agriculture is the basic industry in the Frenchman-Cambridge Division area. Principal crops include corn, wheat, alfalfa hay, and sorghum.

##### Recreation:

The reservoirs of the division provide many thousands of persons from Nebraska and surrounding States with the water-oriented sports of boating, skiing, swimming, fishing, camping, and waterfowl hunting. Anglers enjoy excellent fishing for bass, catfish, crappie, pike, drum, walleye, and other common warm-water species.

##### Flood Control:

Flooding in the area was a primary consideration leading toward the construction of area reservoirs. The 1935 flood on the Republican River took 110 lives; the 1947 flood on Medicine Creek claimed 13. In 1957, a major flood caused \$16 million in property damage and loss. Today, flood waters are stored in the reservoirs of the division or released at rates which minimize downstream damage. The flood-related savings attributed to Red Willow Dam is just over \$3 million to date since the dam was constructed.

#### Authorization:

Red Willow Dam, a feature of the Red Willow Unit of the Frenchman Cambridge Division of the Pick-Sloan Missouri Basin Program, was authorized by the Flood Control Act of December 22, 1944. This act approved and, in part, authorized the comprehensive Missouri River Basin development plans presented in Senate Document 191, as revised and coordinated with the Corps of Engineers' plans by Senate Document 247. Both documents were of the 78th Congress, 2d session.

#### Construction:

Construction of Red Willow Dam began July 1960 and was completed in 1962.

## Frenchman-Cambridge Division Storage Facilities and Operating Agencies:

Enders Dam and Reservoir, Trenton Dam and Swanson Lake, Red Willow Dam and Hugh Butler Lake, and Medicine Creek Dam and Harry Strunk Lake are operated and maintained by the Bureau of Reclamation. When water surfaces rise above the top of the conservation capacities, the dams and reservoirs are operated under instructions provided by the Corps of Engineers.

The Frenchman-Cambridge Irrigation District operates and maintains Bartley Diversion Dam, its canal and laterals; Cambridge Diversion Dam, its canal and laterals; Meeker-Driftwood distribution system; and Red Willow Creek Diversion Dam, its canal and laterals.

The Frenchman Valley Irrigation District and the H&RW Irrigation District maintain and operate diversion and water delivery features of the division.

Government lands surrounding the reservoirs of the division and water surfaces used for recreation and wildlife are managed by the Nebraska Game and Parks Commission.

## Facts about Red Willow Dam:

Structural Height:	126.0 ft
Hydraulic Height (Normal Operating Depth at Dam):	93.9 ft
Spillway Crest Elevation:	2604.9 ft
Crest Elevation:	2634.0 ft
Crest Length:	3159.0 ft
Streambed at Dam Axis:	2511.0 ft
Top of Active Conservation Pool (Elevation):	2581.8 ft
Top of Inactive Conservation Pool (Elevation):	2558.0 ft
Top of Dead Storage Pool (Elevation):	2552.0 ft

## Facts about the Hugh Butler Lake:

Total capacity to El. 2604.9:	85,070 acre-ft
Active capacity El. 2558-2604.9:	76,149 acre-ft
Surface area at El. 2581.8:	1,621 acres